

## ***Interactive comment on “Do we miss the hot spots? – The use of very high resolution aerial photographs to quantify carbon fluxes in peatlands” by T. Becker et al.***

### **Anonymous Referee #2**

Received and published: 28 May 2008

#### General comments

The paper investigates the relationship between trace gas flux estimates and the resolution of the underlying land cover map. The range of flux estimates in the literature underlines the necessity to question existing estimates and to identify ecosystem specific scales. The paper addresses a timely topic which is well within the scope of the journal. The authors present a simple upscaling approach by resampling high-resolution aerial images to simulate different ground resolutions and deriving a land cover map for each resolution. This is an interesting approach that can be used in further studies as a relatively efficient and low-cost method to determine the necessary threshold for land

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cover mapping. Weaknesses of the method are indicated by the authors themselves, i.e. classification results might be influenced by data distribution due to the statistical implications of the resampling and classification algorithm. This could be rectified by using different algorithms and comparing the results.

Does the paper present novel concepts, ideas, tools, or data? yes Are substantial conclusions reached? yes Are the scientific methods and assumptions valid and clearly outlined? See comments Are the results sufficient to support the interpretations and conclusions? yes Is the description of experiments and calculations sufficiently complete and precise to allow their reproduction by fellow scientists (traceability of results)? yes Does the title clearly reflect the contents of the paper? yes Does the abstract provide a concise and complete summary? yes Is the overall presentation well structured and clear? yes Is the language fluent and precise? yes Are the number and quality of references appropriate? yes

Specific Comments Page 1102, Lines 26-28 : Authors should explain why they chose this resampling method (nearest neighbor algorithm).

Page 1103, lines 9-12 : Expand on the "moving split window" method. The sentence in lines 10 to 11 is unclear.

Page 1101, lines 2-8: modeling CO<sub>2</sub> and CH<sub>4</sub> - why were specific variables chosen? Cite appropriate reference.

Page 1102, part 3.3 Remote sensing: When were pictures taken?

Page 1103, line 15 ff. : Specify how the "stable" condition for area estimates was defined.

Page 1104, lines 17-20 : Segment belongs into methods.

Technical corrections

Page 1100, Line 12 : chosen -> chosen

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Page 1100, Line 14 : representative -> representative

Figure 4, caption : the distances -> the squared distances

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Interactive comment on Biogeosciences Discuss., 5, 1097, 2008.

**BGD**

5, S687–S689, 2008

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